REMARKS

Claim 17 has been amended to clarify the invention and to stress differences of the claimed invention over the applied art. No new matter has been entered.

The art rejection is respectfully traversed. In rejecting the claims as obvious from Molva et al. in view of Hou et al., the Examiner acknowledges Molva et al. fails to teach an [100] orientation. Actually, that is only one of several claim features missing from Molva et al. In fact, Molva et al. does not teach (1) the orientation of the active laser material layer; does not teach (2) the orientation of the saturable absorbent material; does not teach that (3) both layers should have the same orientation; and, does not teach (4) that both layers should have a specific [100] orientation. In fact, this combination of features, i.e., the use of a specific active laser material, the use of a specific saturable absorbent material directly deposited on the active laser material and the specific orientations [100] of both the active laser material and the saturable absorbent material provide a laser cavity having controlled polarization not achievable by the prior art.

The use of a suitable orientation for both layers, let alone the use of the specific [100] orientation of both layers to achieve a controlled polarization is not mentioned nor suggested in either prior art document.

The primary reference Molva et al. (as EP-A-0 653 824) is acknowledged prior art and is cited on page 5, line 13; and pages 5 to 7 of the description which fully discloses the drawbacks, and problems associated with the laser cavity of the prior art as represented by Molva et al.

In fact, the present invention has been achieved taking the laser cavity of Molva et al. as closest prior art, and the features of the invention provide a solution to the problems exhibited by

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the laser cavity of Molva et al. The effects and advantages achieved by the inventive features of the laser cavity according to claims 17 and 31 are fully disclosed, e.g., on page 8, line 16 to page 9, line 33, in particular the advantages due to the specific [100] orientation of both the active laser material layer and of the saturable absorbent material layer are listed in said passages of the description.

In rejecting the claims as obvious from Molva et al. in view of Hou et al., the Examiner takes the position that Molva's lack of teaching an [100] orientation is supplied by Hou et al. Hou et al. is related to a target of a color CRT (cathode ray tube) and not to a microlaser. Hou et al.'s target is made of simple crystal yttrium aluminum garnet (YAG; $Y_3Al_5O_{12}$). A microlaser has nothing to do with a CRT!

According to the Examiner, Hou et al. teaches an [100] orientation (col. 2, lines 56 to 58). Actually, in the passage of Hou et al. cited by the Examiner an [111] orientation substrate 10 is described as being obtained from commercial sources. On said substrate the green (G), red (R) and blue (B) phosphor YAG layers are epitaxially grown.

Nothing is said in Hou et al. about the orientation of the (G), (R) and (B) phosphor layers.

Contrary to the Examiner's assertion, Hou et al. teaches away from the use of an [100] orientation of the substrate; according to Hou et al., col. 2, lines 57 to 60 "This orientation ([111]) is preferred because the latter (i.e., [100]) typically implies a 10-20% lower luminescent efficiency of the phosphor layers".

Moreover, as stated above, there is no mention of the orientation of the phosphor layers grown on the substrate, there is no mention that the orientation is the same as the orientation of the substrate, let alone that said phosphor layers have a specific [100] orientation.

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In addition, and regardless of the orientation that could be disclosed in Hou et al., the teachings of Hou et al. with a target in a CRT and cannot in anyway be used in the field of microlasers. Clearly there is no motivation found in Hou et al. that would lead one skilled in the art of microlasers to select the orientation of both the active laser material and of the saturable absorbent material in a microlaser. And, one skilled in the art would not have combined the Molva et al. and Hou et al. references because they concern totally different devices.

Moreover, even if one were to combine Molva et al. and Hou et al., such combination still would not achieve the invention as set forth in Applicants' claims because Hou et al. teaches away from use of a [100] orientation.

Moreover, in neither document is there mention that the polarization could be controlled by using layers having proper, specific orientations, let alone that both layers should have the same orientation, and more specifically orientations of the [100] orientation as required by independent claims 17 and 31 and the several claims dependent thereon.

Moreover, in Hou et al., there is no "laser effect" therefore there is no need to control polarization. It is therefore submitted that the Examiner has applied impermissible hindsight and is applying the teachings of the present invention to the prior art to make out a case of obviousness.

Having dealt with all the objections raised by the Examiner, the Application is believed to be in order for allowance. Early and favorable action are respectfully requested.

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In the event there are any fee deficiencies or additional fees are payable, please charge them (or credit any overpayment) to our Deposit Account Number 08-1391.

Respectfully submitted,

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